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A MEETING was held last week in New York at the rooms of the Board of Underwriters, to urge the representation of American manufactures at the French Exhibition of 1878. A National Executive Committee was appointed, including many prominent names from various cities; Gen. Joseph R. Hawley was chosen President, Mr. A. T. Goshorn first Vice-President, and Mr. August Belmont Treasurer, though of what does not appear very clearly from the accounts that have reached us. Some diversity of opinion was developed at the meeting. A majority report from the committee on resolutions proposed a permanent association to be called the New York Exhibitors' Union of the Paris Exhibition, and urged that the officers who had been chosen should press upon Congress the need of an appropriation to aid exhibitors. A minority report recommended an adjournment for a week, during which a committee to be appointed at the meeting should go to Washington to urge the acceptance of the invitation of the French government to join in the Exhibition, and "proper provision for our representation there." A part of the meeting was in favor of carrying on the movement by private organization, with the aid of Congress if it could be got; if not, without it; and apparently with no concern for the attitude of the Executive in the matter. One Boston gentleman reported that there were at least a hundred establishments in his city that proposed to exhibit in any case. Another part advocated an appeal for official indorsement from the Government, and a formal acceptance by it of the invitation of the French government. Mr. Coudert, the chairman of the meeting, thought the failure of support from the Government must end the matter; but while he deprecated the delay of the Executive, felt assured of the favor of the Secretary of State, for the Exhibition, and hoped for a proper official support. The minority report was finally adopted, and the chairman of the meeting was directed to appoint a committee who should lay the matter before the President.

THE French Exhibition, like all the European exhibitions, but unlike our Centennial, is a government undertaking; the invitation to take part in it is from the French government to ours. There has been a notion that the backwardness of our Executive in responding to the invitation is due to a French official at the Centennial, who wrote and published a very discreditable private letter about our people,—a notion for which there is probably no foundation. If we remember rightly, the letter was reprehended by the French government, though, as it was not official, there was no occasion or opportunity for disclaiming it. That the United States should be represented, and well represented, at the Paris Exhibition, seems to us extremely important. The lessons of the Centennial are beginning to bear fruit in an improvement of manufactures all over the land; it needs the stimulus of another exhibition and a new opportunity of comparison to secure the full benefit of it. We do not know what individual exhibitors might succeed in doing; but we are sure that there will be no creditable display from us without action from the Government. We have not shone in European exhibitions thus far. There were many things, official and unofficial, at the Vienna Exhibition, that did us no credit; but they may be avoided this time, and absence would be a calamity. We do not believe that our Executive is likely to imitate the churlish example of Germany in refusing the French invitation; still less, that it will offer the affront of letting it go unanswered. But before it is accepted, there ought to be indication that the manufacturers of the country mean to do us credit, and of a disposition on the part of Congress to do the right thing for the occasion.

WHILE many interesting experiments on the utilization of sewage are going on in Europe, the question of its profitable and safe employment must be regarded as still undecided. In some cases, particularly of smaller towns, a large measure of success is claimed for various processes of irrigation or desiccation; but in the large cities the case is more difficult. In Paris, for instance, where the sewage of a considerable section of the town has lately been diverted from the Seine, and diffused by irrigation over an adjacent district, the experiment which at first seemed successful now looks more questionable; and the commune of Gennevilliers, where the sewage was delivered and spread over the fields which it was expected to fertilize, some time ago sued for an injunction against the city on the ground that its territory was being poisoned by the contribution. Meanwhile the crying necessity is to get rid of the organic matter that accumulates in cities; and in New York, as we have mentioned before, a plan has been on foot for disposing of the street garbage by burning. The Police Commissioners have made a contract with the Metropolitan Refuse Company to dispose of the street dirt of the Seventh Ward; and the experiment has been going on for three weeks. By this unsavory process which the newspapers delicately call "cremation," some seventy loads of refuse are burned each day. The gases evolved are consumed, it is said; and the residuum, from five to twenty per cent, is said to be fit for "filling, roofing, roadways, or ballast." It is not difficult to believe that in a powerful furnace all noxious organic matters would be thoroughly decomposed; whether the gases into which they would resolve would not become noxious in their turn would depend, we take it, on the completeness of the combustion. We are told, however, that people in the neighborhood of the furnaces make no complaint of them. It is hoped that if the experiment succeeds, arrangements will be made for disposing of all the garbage of the city, for which it is proposed to build six blast-furnaces of thirteen feet diameter, and sixteen feet high, which can dispose of a thousand loads a day. At present it is said to cost the city five hundred dollars a day to tow the refuse out and dump it into the sea; a proceeding which is in itself at least questionable. Mr. Foote, the patentee of the process, thinks that it can be made to pay for itself; and says that he has been offered twenty cents a load for all the residuum he can deliver. We should think that till the result had been pretty thoroughly tested it would be as well for the city to have an eye to the use that is made of this residuum, especially as the amount of it, and therefore the profit, will increase directly with the imperfection of the process.

WE read with some amusement a letter to the New York *Tribune* from an American engineer, who is in patriotic alarm at the proposal that Cleopatra's Needle shall be brought to this country by the English engineer who is now moving the Wilson obelisk to London. "The point is simply this," he says: "If we allow a thing of the kind to be done by foreigners, the implication will be that we could not do it ourselves. This is not true; but if we allow it to appear so, we shall certainly have to stand the implication." There is not much danger that anybody who thinks of American engineers at all should imagine them incapable of such a task, especially considering how many times it has been performed. If the transportation of needles of such a gauge were to become an important branch of business, it might be worth an effort to secure a share of it to our country, especially considering

the depressed condition of what the newspapers call our mercantile marine. But remembering that the occasion is not likely to occur again in this century at all events, we cannot think that another such craft as Mr. Dixon has prepared would be a great addition to the number of "American bottoms;" and we should say that the only important considerations in this case were security and economy. Of course security is by all odds the most important consideration. If an American should offer a scheme of transportation which obviously promised greater security, or, with equal guaranty of success, a considerably less cost, these would be reasons for putting the work into his hands. But assuming equality of skill, as we may between English and American engineers, the presumption of success, so far as it went, would be in favor of the person who has gained experience in moving the Wilson obelisk, if he succeeds, or perhaps even if he fails. It can hardly be said of Mr. Serrell: *rem acu tetigit*. One tires of hearing appeals to patriotic pride in cases with which patriotic pride has nothing to do.

We have spoken more than once of the new Society of Decorative Art in New York, a ladies' society, in which judicious management and liberality of plan have been conspicuous from its beginning. It has just opened for the first time its salesroom at No. 4 East Twentieth Street. The society offers for sale not only the things made in the schools which it has established, but decorative work of any kind which may be sent to it by the maker, provided only that the committee on admissions consider it to be sufficiently good. This opening of a market to which anybody can offer his work without having recourse to the dealers, and in which only the moderate commission of ten per cent is charged to offset the expenses of sale, ought to be of great benefit; and the wisdom of the managers in not restricting it to women's work is manifest. The provision that the things offered shall be on approbation, is of course indispensable if the association is to have any influence; and this is the only restriction that is established, except that those that send things shall pay for transportation. The work of the association is already well organized and begun. Lectures on various industrial arts have been arranged, and auxiliary committees have been formed in other cities. Classes for instruction have been begun, mainly on the South Kensington plan, in needle-work, lace-work, china-painting, and pottery. The association has no fund, and fees are necessarily and properly charged for instruction; but a free class has also been established, the members of which are expected to give two or three hours' work each day to the association in return for what they receive.

An association of like aim has been formed in Boston to establish a school of wood-carving for women, such as has been so successful in Cincinnati. A committee of ladies and gentlemen has been appointed, and a subscription set on foot. As soon as money enough is secured, a systematic course of instruction will be set going, with lectures and classes in modelling and carving. A skilful modeller and ornamental sculptor, Mr. John Evans, has been engaged to take charge of the classes. Apropos of sculptors, Mr. Ralph Dengler, a young sculptor of Cincinnati, has been engaged to take charge of the new class in sculpture that has been added to the new School of Drawing and Painting in Boston, so that the school is now complete in all its branches.

The strike among the masons in London has brought the work on the New Law-Courts there to a stop. The contractors, Messrs. Bull and Sons, had provided for this occurrence, from which no large work in England can be expected to be secure at this day, by getting a clause inserted in their contract which allowed them six months' grace in case they were interfered with by strikes. It is questionable whether even this will make them whole, if we may judge by what we read. When the work was stopped they immediately sent to Germany for masons to take the place of the strikers. Two dozen men arrived a short time ago, and were set to work at once; but on the third morning they were missing. The foreman hastened to the inn where they lodged, and found that the whole company had taken their breakfast early, hurried down to the Hamburg steamer, and were on their way back to Germany. Their striking brethren of London had got at them, and paid their fare back to Germany, and they had decamped without a word to their employers. The strikes are growing into a national calamity. The waste and hardship are enormous; the conflict bids fair to become the important political movement of the day in England. The *British Architect* says: —

"Carpenters in Manchester, and masons in London, thousands of good workmen out in the cold! *On strike.* Absolute suffering and discontent for the men, and inconvenience, loss, and trouble for the masters; to be continued during the whole miserable existence of a trial of strength called 'a strike.' And this wretched injustice to masters and men, this strike, is the only way in which the problem can be solved in the nineteenth century. It is simply a question of fighting, just as the Russians and Turks are now doing. The nineteenth century settles national and economic questions by fighting! Its wisdom cannot settle them, and certainly its temper and disposition cannot. And so this lengthy, unjust, and temporary method of fighting must be carried on. It is lengthy; for the masters, — a mere question of capital; for the men, a question of their unions' capital and the capacity of their families and themselves for bearing suffering and trouble. It is unjust, for might will win, and might is *not* always right. It is temporary, for let the weak revive into strength, and then — fight again! One conclusion we form is this: Trades unions are much to blame. Masters know what they *can* do, and what they cannot. It is for unions to obtain facts, and judge fairly and honestly of the possibilities of the case, and then effect an arbitration; write, talk, argue, work the rights of the thing until a fair arbitration is brought about. Trades unions exercise a mighty power. It should be wielded rightly. If aiming to make workmen efficient, and to obtain the best pay for the best work as a primary object, they would be a greater source of good, and afford less of a comfortable sneaking-place for idle and incompetent workmen. Generally masters are fair and reasonable, and have sufficient education and intelligence to pay a really good price to a good workman, with the knowledge that it pays so to do. Would that the relations of men to their masters were solely those of friendly commercial competition, and not of such a bitter, fierce, and resentful character!"

The tenth annual Congress of the English (or perhaps the British) Trades Unions has just been held in Leicester. It had an interest for outsiders because of the moderate tone it assumed, if we may judge by the inaugural address of its president, Mr. Merrick, which seems to have been received with much favor. After properly denouncing attempts upon property or persons, Mr. Merrick said that the motto of trades-unionism was, "United to protect, but not to injure." Strikes and lock-outs, he thought, were barbarous devices and relics of the spirit of a past age, than which some better means of settling differences might be devised; and the means that he urged was arbitration, which had grown greatly in favor during the last few years. Workmen, he thought, had nothing to fear from either arbitration or publicity. It was generally found that the awards of arbitration boards could be trusted; and he cited instances of the readiness of workmen to invite and abide by them. He considered trades-unions important, because they made the men thoughtful, and encouraged the habit of saving. These are more reasonable words than we are used to expect from the trades-unions; how far they indicate the real tendencies that are active among them now, we cannot judge: it is not unlikely that the unions, like other leagues, political or social, are ready to talk more reasonably than they will act. They have doubtless been formed, as the president says, for the purpose of protection, though their chosen means of protecting themselves has been injury, and often violent injury, to other people. But when they find that this means of protection, which at first had the effect which is due to an audacious surprise, is losing its efficacy, that the strikes of the men are being offset by the concerted measures of the masters, and that the communities are slowly but certainly rousing themselves to lay a heavy hand on unions that violently trouble their peace, it is not strange that those unions should begin to see the wisdom of substituting reason for a violence that is becoming ineffective. It is not easy, however, to go with Mr. Merrick in his assertion that the unions have made workmen self-reliant and saving. The evidence is rather that they tend decidedly to idleness, which means wastefulness; and as to self-reliance, it looks to an outsider as if submission to employers had simply been changed into servility to their own rulers. Meanwhile the strikes of colliers and shipwrights in the north, and of the Manchester joiners, still go on; the last, by the way, was met in the beginning by an offer of arbitration from the masters, which was rejected by the men.

PROFESSIONAL ETIQUETTE.

It is natural that professional etiquette should be more or less a matter of dispute, and should be looked upon with more or less of impatience, both by clients and by that part of the profession whose concern is only for the success of the moment. Etiquette, professional or social, is a restraint to the natural impulses of persons who are not accustomed to it, — this is the very purpose of its existence; and people do not willingly submit to restraint unless they either have been born to it or have deliberately imposed it on themselves. That the etiquette of a new profession like architecture should have to make its way, or to be put forward, through some opposition, is not to be wondered at; and indeed, is perhaps desirable, for so it may be prevented from becoming oppressive and domineering, and the restraints it imposes from overbalancing the benefits to be gained from it. Now the economical advantage of a professional etiquette, the one by which therefore it must in the present age chiefly swear, is that it saves us from the loss of time and expenditure of effort, which come of disorderly strife. This is to any profession a matter of very great importance. The waste of force that goes on when its members are struggling to get the advantage of one another, or to resist the aggressions of an inconsiderate *clientèle*, is enormous. It exhausts the energy, the interest, or at least the time of the practitioner, and it impairs the quality of his work. There are clients with whom it is a matter of course to beat down the charges of every practitioner they employ to the lowest possible point, as they would haggle with a huckster for fruit. There are also Ishmaelites in every profession; born cut-throats, whose hand is against every man, who live by strife, and are comfortable in no other element. The field of architecture in the United States, open as it is, with no barrier at which anybody's right to enter it can be disputed, seems to be peculiarly tempting to adventurers; and there is no end to the confusion they make in it. But most architects acknowledge the harm that is done, the time wasted, and the demoralization caused among them, by unregulated efforts to get the better of each other, or by the desire of unreasonable clients to get the better of architects; by all the uncertainty and random effort that is due to not knowing what they have to expect from each other.

Of course, theoretically, the substantial benefits of a code of etiquette could be secured without it, by the use of individual fairness, courtesy, and common sense, if these always prevailed; and there are those who in good faith think that these are enough to trust to, just as there are those, on the other hand, who think it as well that every one should be left to work his way along by incessant fighting. But we know very well that the pressure of competition is directly against courtesy and fair dealing; that the hurry of rivalry may greatly warp our ideas of propriety away from our quiet judgment; and that for men to count on each other's doings under such influences, unrestrained by custom, is simply impossible. The choice is simply between a condition of constant strife and lawless confusion, in which half the energy of a profession is wasted, and which brings mostly to the front, not those who are professionally best qualified, but the best fighters or wire-pullers, and a condition in which the dealings of practitioners with their clients, and with each other, are determined by known and orderly agreement; where the efforts of the profession are spent in their legitimate work; where the practitioner has a reasonable assurance that excellence will not be robbed of its reward, and the public may believe that prominence means merit.

The etiquette whose office it is to defend architects against these troubles is plainly the care of the architects themselves. It must be they who determine it, establish it, and maintain it — under correction of experience. Architects are too apt to forget this, and to complain that the profession does not have the treatment it ought to have from clients and the public; that competitions are offered on unreasonable and humiliating terms; that clients try to restrict them in their professional authority, or of their due remuneration; that the public does not treat their guild with proper deference, or show due respect to its expressed opinion, or give proper precedence to its authority in its own domain. All this is in a measure true. The average citizen does not hold the architect's opinion, even in the things of his vocation, as better than those of his carpenter or house-painter; the public does expect him to waste his time and money on competitions that do not pay, and are not intelligently, often not honestly, decided; the client does often urge, and if he can, constrain him, to work for unremunerative fees. More than this, the architect does sometimes cut his brother's throat; he intercepts the work that would fall to him by offering to do it for a less fee, or by gaining the ear of client or committee-man. But it is of no use for architects to waste their breath in complaint at these things. The etiquette that would control them is their defence. No one else can be expected to champion it, and no one else will. Nor is there need of any one else. The individual architect, wanting his daily bread and unsustained by his fellows, may be at the mercy of the public or the client; but the profession is not. It has come to be recognized as necessary, and it can make itself indispensable. Whatever rules of practice or etiquette it stands upon, within the bounds of reason, it can maintain. If it fails, it is not the fault of the outside world, but its own. It has no right to complain. A profession always maintains its etiquette, in the face as it were of the public, which naturally pays it no more heed than it is compelled to, and regards it mostly as an irksome impediment in the way of treating individual practitioners with all the freedom that it chooses. From the point of view of the public, it is a code of defence; from that of the profession, it is a code for the regulation which restrains the members from interference with each other, and from sacrificing the general welfare by working against each other. Naturally such an etiquette is not established till a profession has become somewhat united. Its development shows how far the members have learned the mischief of antagonism, and the need of common agreement, the value of having a professional vantage-ground maintained by common action, instead of being obliged, each one, to conquer every position from the very beginning by pure self-assertion. It is in fact a sign of civilization preferred to barbarism.

It ought not to be necessary, one would think, to enlarge on the value of a reasonable deference to etiquette in any profession; but it is certain that, on the whole, American architects are greatly disposed to undervalue it. The Ishmaelite abounds in the profession; and its rules, well established by the usage of other countries and accepted in this, are made conspicuous too much by their exceptions. Yet it is a profession in which unity of action is of great importance to progress, and still more to the appreciation of the public. How far the condition of active progress and public respect are apt to coincide with a care for etiquette, we may learn from the physicians; of the union of uncertain progress and doubtful repute with an irregular practice, our own profession is a good example. There is, to be sure, an astonishing difference in the susceptibility of architects. One will accept or even invite treatment which another will resent as indignity. There are those who seem utterly careless of the claim of their profession to any respectful treatment whatever; and there are those who would exact an amount of deference and formality that would seriously impede the public in obtaining what it needs from us.

As regards the public, the fixing of a professional etiquette is a compromise between the proper dignity and freedom of the profession, and its pliability to its requirements or desires. When fair and honorable dealing have been provided for, there remains the test of what will, in the long run, best suit the interest of the community; for architects must not forget that the real interests of the community are the real interests of their profession. It is for the general welfare that architecture should attract men of character, ability, and acquirement; that it should give them encouragement to do their work well, and an adequate remuneration for it; and also that they should respond as directly and easily as possible to the wants of the community. While the care of maintaining a defensive etiquette belongs to the profession, and they do ill who neglect or invalidate it, it still behooves them to see that they do not press it to the permanent inconvenience of the public. Questions of compromise are always difficult and seldom to be determined except by experience. But it does architects no harm to remember, that while they have the right, and in a considerable degree the power, to fix the terms on which they will do service to the community, it is nevertheless for the sake of that service, and for that only, that architects exist.

CAST-IRON FRONTS AND THEIR DECORATION.

IT is quite natural that we should feel a strong predilection for those time-honored materials, stone, wood, clay, which have served mankind so well since the beginning of the world. — materials which have formed all the great styles of architecture now known to us. Yet, though necessarily sharing this feeling with the rest, I believe that, if allowed to become too predominant, it will stand in the way of our availing ourselves of the resources at our command, and thereby retard the healthy development of a better style of architecture. I believe that it is a sentiment which, together with our inartistic treatment of cast-iron, has given rise to remarks against the material, often so ill-placed and unjust as to have produced a general misconception of its capabilities. To devote therefore a few words to the attempt of removing this misconception where it exists, seems reasonable and right.

If in the treatment of our iron fronts, we have so far failed artistically, this does not in the least affect the question of the adaptability of cast-iron for exterior use in building. If its use is found to be economical, its proper artistic treatment must follow sooner or later.

The value of any building material must be determined by studying either its popularity as shown by the extent of its use, or its capabilities as compared with those of others in use. In the present case our experience has been so short that it is hardly fair to form our estimate from its popularity. Yet, so far as we can learn, the verdict is decidedly in its favor.

The use of cast-iron in the manufactures does not appear to date back beyond the invention of gunpowder and the consequent casting of cannon in 1327.

The first instance on record of its successful application for building purposes was in the beams of a cotton mill in Manchester, England, in 1801, or within the life-time of many of our friends.

For exteriors, its use is in its infancy. The first iron front erected in America is said to be that on the corner of Duane and Centre Streets, New York, built in 1847.

What has been accomplished since that time by us Americans does not seem sufficient to justify any very wild enthusiasm on the part of the artistic world. Indeed, our typical iron front is the embodiment of all that is vulgar in American architecture, so that the very name has to many of us become offensive.

I believe the cause of this to be that the material is new, and that we therefore have no models to copy. The problem before us then is nothing more nor less than the invention of a new style of architecture.

Its difficulty however does not appear to have troubled the Yankee builder. "What has he to do with the knotty problems of art?" he says, and proceeds to turn out expensive imitations of stonework, in such numbers that if those in New York alone were ranged in a straight line side by side they would reach from the City Hall to Union Square, or a distance of over two miles.

That this imitation involves great waste is overlooked by the owner, who is satisfied if he gets, for comparatively little money, the appearance of stone without its substance. But it is evident that when the forms of one material are imitated in another totally different in its nature, either a loss of strength or a waste of material is the inevitable result.

The spread of iron fronts within the last fifteen years, notwithstanding the prejudice against them caused by their unhappy treatment in design, has been astonishing; and their power of resisting fire and climatic influences has commended itself to all. One of the surest indications of the popularity of the iron front is the fact, stated on good authority, that after the great Chicago fire, every owner of iron stores who was burnt out — the iron fronts, where injured, being thrown down by the falling of adjoining walls rather than by the fire itself — rebuilt in the same manner.

Comparing next the material itself with others, we are obliged to admit that cast-iron occupies in many respects a place inferior to none.

Its *strength* is greater than that of any other material used in building. The tensile strength of the best cast-iron is stated as over 11 tons to the square inch of section, its crushing strength as over 70 tons to the square inch, or 20 or 30 times as great as that of ordinary building stones. It is calculated that a cast-iron column may be ten miles high before it will crush itself by its own weight.

Its *durability* depends upon the care with which it is kept; but painted once in three or four years, it is apparently indestructible, while stone blackens and decomposes in the air. It is said that rain-water, after washing a marble front will be found by chemical analysis to be so fully impregnated with carbonate of lime, as to be useless for the purposes for which soft water is applied.

Its *economy* in mercantile buildings is proverbial. Mr. Fryer in his practical work for iron-workers says, "The interest on the difference in the first cost between a stone and an iron front will easily pay for one coat of paint a year." Yet once well painted and boiled in oil, an iron front will sometimes look well, in places where the exposure is not trying, for ten years without a renewal of paint.

Its *noncombustibility* or power of resisting fire is, especially when backed up with brick-work, greater than that of any other known material or combination of materials unless we except terra-cotta.

Experience in the two most important fires we have known within the last fifteen years, fires in which iron fronts were fairly tested, forces us to this conclusion. Brick-work used alone will crumble or be beaten to pieces by falling walls; but protected by a solid boxing of iron, as in piers, it is practically indestructible. A most striking instance of this was shown after the great Boston fire. Wandering about the ruins on Federal Street I came to the spot where the store of Huzzey, Wells, & Co. had stood. The piers of the first story were of iron backed with brick-work. It was these that attracted me to the spot. All around them for a great distance the destruction was absolute. The force of the fire seemed to have been in this neighborhood particularly terrible. Every thing seemed to be reduced to a powder and levelled to the ground. Granite was split up in fine pieces, and bricks literally crushed to atoms. But in the centre of all this desolation stood these iron piers uninjured. They were hurled off of their foundations, it is true, by the falling walls; but their edges were quite straight and sharp, and their condition nearly perfect. The iron had held the brick-work in its place, and reciprocally the brick-work had cooled the iron, and prevented it from twisting.

The *lightness* of iron is, in consequence of its strength, superior to that of any other material excepting wood; and in many cases, even wood itself cannot compete with it.

A notable instance of this is the cast-iron spire of the Rouen Cathedral. This spire was designed to take the place of the wooden one destroyed by fire. Though its dimensions were greater than its wooden predecessor, its comparative weight, as I was informed by the supervising architect, was estimated at only one-half.

As for the *beauty* of cast-iron, its natural unpainted surface is never supposed to be visible. Painted, it is equal to painted wood, or even, for that matter, to Pentelican marble itself when treated with color as your interesting articles on Greek polychromy show us to have been customary with the ancient Greeks. Those masters of art were then so fond of their richly painted exteriors, that they sacrificed for color even the beautiful surface of their finest marble. We too might see beauty in a painted front if we could but handle our paint as it was handled by the Greeks, and had not lost all true taste and feeling for strong color.

If then cast-iron possesses, in a high degree, these essential qualities, we have done it injustice, and somewhat blindly discouraged any attempt to improve its condition. At all events it cannot be denied that much abuse has been heaped upon it, having for its only ground that very abuse itself which it has suffered from our handling. Treat it artistically, and perhaps we shall find the chief reasons for abuse will be removed.

The facility with which scroll-work can be multiplied in cast-iron, though one of its chief merits, has proved under our treatment to be one of the principal causes of its ill success. I do not refer to the repetition of forms necessitated by the construction, as, for instance, the main lines of the brackets used to support a cornice, — these having similar functions should receive similar treatment, — but to the unnecessary and meaningless scrolls applied for ornament and to the reduplication of casts of the same *work of art* wherever applied. A work of art repeated without variation, simply because the process of reduplication is cheap, fails at once to produce the desired admiration, both because the motive is evident and because the very object of the work of art is lost sight of or ignored. The repetition of the same story or idea beyond certain limits, however good that story may be, does not increase its use or interest, but rather indicates the weakness of the author.

Where the ornament is of such a kind that it can be formed naturally of cast-iron or of wrought-iron as it was treated by the Gothic architects, its effect used with discretion must be pleasing. As an illustration, the foliated capital of a column treated like a stone-carving would produce a heavy and awkward appearance, because iron cannot be undercut like stone, but must be drawn from a mould. But unlike stone the far more effective treatment of overlaying is open to the iron-worker; and a lightness and strength of shadow corresponding to the general character of iron-work may be obtained in a legitimate manner. Such foliations may be treated far more boldly in iron than in either stone or wood, on account of the freedom of the former from liability to crack under the influence of the weather.

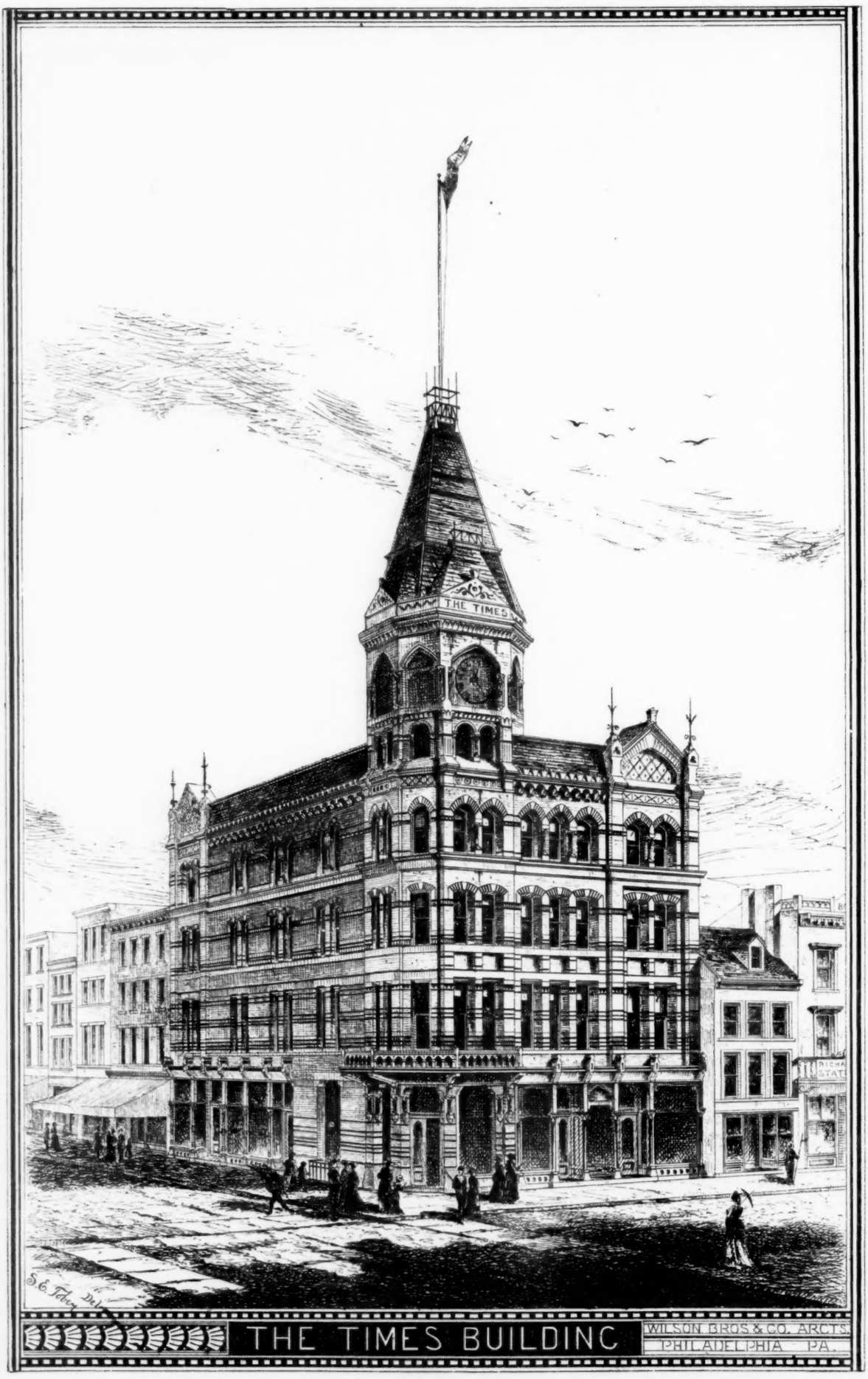
Cast-iron partaking more of the character of wood than of stone, iron architecture should more nearly resemble wood-work than masonry. The projection of cornice, caps, and hoods may be carried out to any desired extent for the purpose of shading the front and protecting the paint.

Where, however, sculptured panel-work is required to any great extent, it would be well to combine with the iron some material adapted to receive chiselled work.

Although up to this time, no attempt has been made to combine in this way, for ornament, other materials with iron, I nevertheless believe that very beautiful effects might thereby be produced.

Terra-cotta is a material which in many respects resembles iron, and might be combined with it in the form of sculptured panels with the most brilliant effect. Colored in its manufacture to any shade desired, in such a manner as to rival the beauty of the richest stones, it could be made to harmonize with the coloring of the iron-work; and its presence would relieve the eye from the monotonous nature of the surface of paint.

Terra-cotta may be carved like stone. It is a mistake to sup-


THE TIMES
THE TIMES BUILDING
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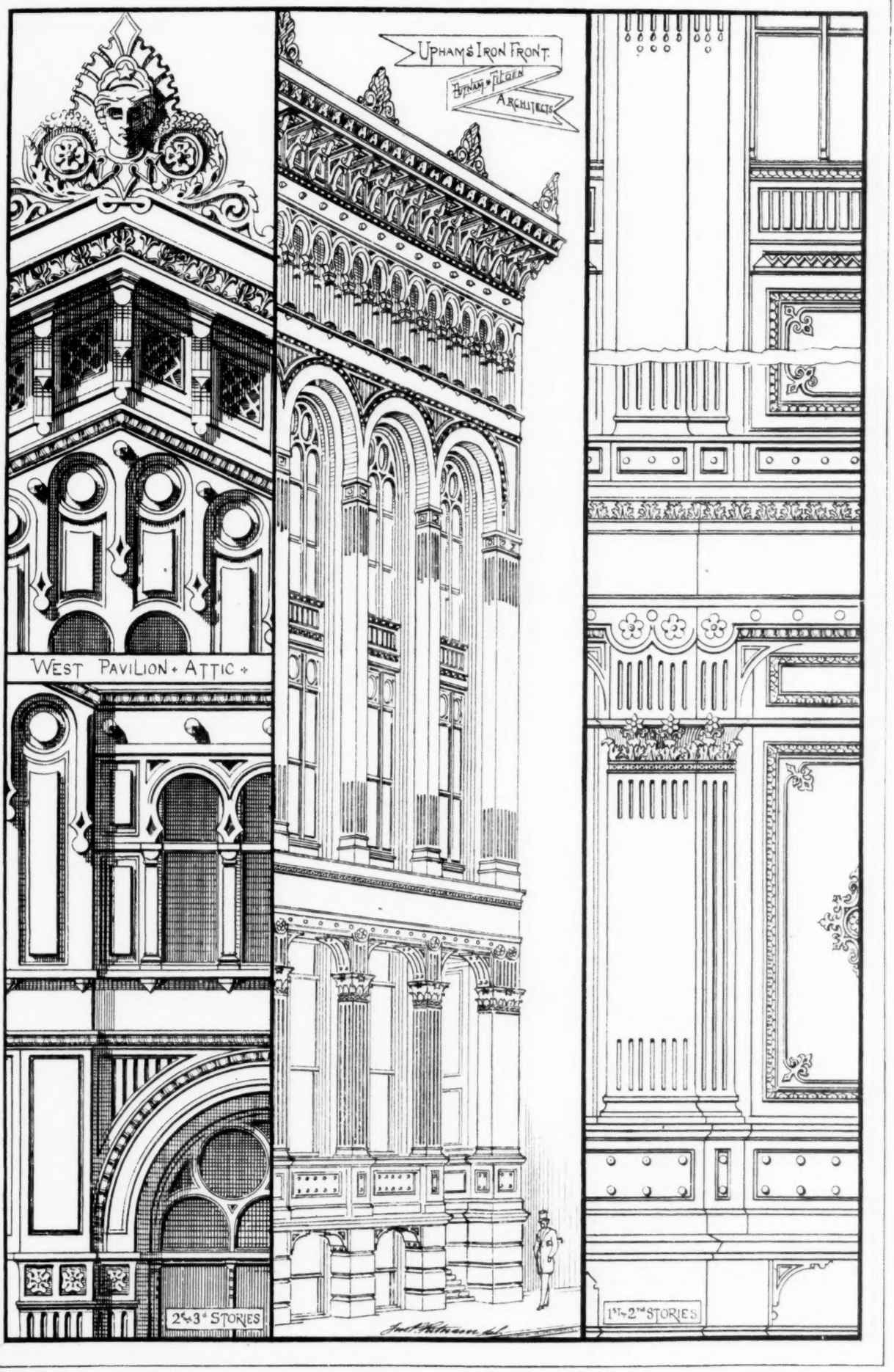
PHILADELPHIA PA.

MONUMENT OF THE RUSSIAN EMPIRE, AT NOVGOROD.—DESIGNED BY M. MIKESCHINE.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ARCHITECTS
WEST PAVILION + ATTIC +
2ND & 3RD STORIES
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pose that, because it is a plastic material, every thing done in it must be cast from the mould, and bear the character, marks, and monotony of the mould. There is no more necessity for using moulds for terra-cotta than for reduplicating ornaments of stone. Moreover, the material actually built in is the same that came direct from the hands of the artist, and not, like stone-carving, frequently only a copy of his clay model. The work is touched up and chiselled by the artist himself when partly hardened before it is baked, so that when finished it retains forever the character and sharp impress of his tool. Thus a work of art in terra-cotta combines the advantages of the freshness and vigor of the clay model and the beauty and durability of the stone. It gives too, like iron, an opportunity for brilliant effects of light and shade by the application of separately modelled pieces of material superimposed over the recessed parts while all are soft, and then the whole being burnt together into one homogeneous mass. By this means the economy in proportion to the effect produced is great.

In its power of resisting fire, its immense strength, its mode of manufacture, and its durability, terra-cotta again resembles iron. It is, in fact, imperishable, and in its artistic effects unchanging. In its iron frame it would stand firm long after the surrounding stone-work had blackened or crumbled into dust.

The iron front of which the sketch in this number gives the form though not the color (most important element in the design of an iron front, and sometimes its only redeeming feature) is, in default of drawings of the many better ones which we know to exist, referred to as illustrating in a degree some of the principles to which we wish to call attention. The introduction of panels of terra-cotta was impossible, even if in this case it had been desirable, on account of the unusual hurry occasioned by the circumstances of the fire.

The piers are run up through the second and third stories, the first story acting as a base, and the attic as frieze and cornice. In this way one of the most important and characteristic peculiarities of iron construction is displayed; for we must recollect that in our iron fronts that which appears on the surface to be a series of independent columns, one above the other, and separated by their respective entablatures, is in reality, behind the deceptive veneering of "the orders" applied to the exterior for ornament, only a single column running up through all the stories from basement to roof. All the rest of the front is bolted or hangs, as it were, to these upright pillars. No heavy horizontal courses are necessary as in other kinds of structures, because here the interior construction rests on the side or party walls. Only light screen or panel work unites the uprights. Hence their continuity is unbroken; while with masonry, on the contrary, the pillars between each tier of window opening must support the heavy horizontal blocks which crown these openings. While iron-work is perpendicular, and secured by bolts, masonry is laid in horizontal courses, and its principle of immovability, or resistance against overthrow, is in its gravity. The principles of construction being directly opposite, the form must of course also be different; and what is appropriate and beautiful for the one material is false and ugly for the other. The iron front, then, consists practically of a row of hollow columns rising uninterruptedly above each other from basement to the roof. Every thing else is bolted to these; and the bolt-heads should, where possible, be treated ornamentally. Consequently it is not only a legitimate and truthful method of designing an iron front, but the only one in accordance with its actual construction, to run the piers boldly up through all the stories from bottom to top, and to represent all that lies between the piers as bolted or hung, with or without the aid of brackets, to their sides. The system generally adopted is quite different from this. Two or three hundred capitals and bases, usually all exactly alike, with their respective architraves, friezes, and cornices, corresponding more or less with the various floor levels, are sprinkled over the front without any meaning or object other than that of imitating some equally monotonous building in stone.

The Grecian "orders" should never be represented in iron architecture except in buildings of a single story in height.

With stone-work it is different. Where the "orders" are used, it is utterly false in design to run columns through two or more stories; because the entablature, which represents the floor supports, cannot be bolted, as in iron-work, to the side of a continuous pier, but must rest immediately upon a separate pillar of its own. Thus at each story where there is an architrave there should also be a column with its capital and base to support it, and complete "the order." The Greeks, with their delicate and refined taste, invented the capital to express by some art form the conflict between the column and its architrave,— that is, the conflict between the downward pressure exerted by the architrave upon the column, and the resistance to that pressure on the part of the latter. The art form chosen was the bent leaf; and this sculptured on the shaft at the point of conflict, or contact with the architrave, gave rise to the famous Greek capitals, so often copied but so seldom understood. This may now be considered as an established fact, and disproves the various absurd theories published in popular histories of architecture in regard to the origin of the Greek capitals — as, for example, that based upon the story of the basket of a Corinthian virgin placed upon an acanthus-plant suggesting to Callimachus the Corinthian capital. If I may be permitted to add any thing to your letters above referred to on the coloring of this ancient architecture, I would say that according to Carl Boetticher, Professor of Greek Architecture at the Royal Academy of Berlin, an able and active student of the exhumed ruins of their temples, Doric capitals have been discovered clearly sculptured and painted with the leaves bent as above described. In order to distinguish the heavier from the lighter orders, the leaves in the capitals were represented as more or less strongly bent. Thus in the Doric, or heaviest of the orders, the point of the leaf was doubled entirely over until it touched its base, indicating that a prodigious weight was borne; whereas in the Corinthian, or lightest of the orders, the ends of the leaves are but slightly curved, and convey the idea of grace and lightness. This acceptation explains satisfactorily what otherwise would seem an unaccountable tautology in the multiplied repetition of the same form of floral decoration in a single building of the Corinthian order.

In the Gothic architecture no such art form was required, as there was no conflict to express. The Gothic capital had a totally different origin and meaning. It merely marked the springing of an arch from a pier, and hence could be treated far more freely. Following the same principle in the iron building in question, no capital at all has been represented on the piers running through the second and third stories. Merely a rosette or ornamental bolt-head in a square panel marks the springing of the arch from the tops of the piers, for these arches are actually bolted to the piers.

The building being backed up with brick, our problem becomes more complicated, and the design more difficult; for in it must be reflected the presence of the brick-work. Hence a somewhat heavier appearance has been given to the building than would have been necessary for iron alone. Hence the form of the first story, and the heavy arches above the third. This brick-work serves not only to protect the iron in case of fire, but also to equalize the temperature of the building in winter and summer. It serves also to keep the interior of the iron-work dry by preventing the possible congelation of water in the atmosphere upon the inner surfaces.

In masonry, when no orders are used, a portion of the piers may often be carried up through several stories without impropriety; for they act merely as buttresses to strengthen the walls where they are most in need of strength. If arches be thrown from pier to pier at the top of the building, still no fault can be found with the design, because it is truthful to the construction. Objection has been made to the arches in this building, on the ground that they are stone forms and inappropriate to iron. It is easy to show the incorrectness of this criticism. The iron arch, far from being a copy of the stone arch, is, on the contrary, the only one which is perfect and in every respect unobjectionable. The arch of masonry is to such a degree objectionable on account of the lateral thrust, that the Greeks never trusted it. In the quaint language of architects of India, "the arch never sleeps," but is always at work trying to tear the building to pieces. The iron arch, being formed of a single piece, is in a great measure free from this objection, while it contains that element of strength which its approach to the parabolic form gives to the arch in general.

These arches are ornamented with the moulding vulgarly called "the egg and arrow ornament." This ornament is of Greek origin, and is another art form used by them to express the conflict, explained above, between two members of the architecture. It is a conventional representation of a double row of leaves bending under some superincumbent weight. The Romans copied this moulding, and called it "the egg and arrow ornament," which illustrates well their total inability to appreciate the spirit and beauty of Greek art; for, of all things in the world, what more unfortunate choice could have been made to place between two heavy pieces of masonry than eggs and arrows!

With regard to the rest of the decoration, care has been taken that no ornament should in any case be applied without its *raison d'être;* and nowhere, except in panel-work, has any ornament been employed where the members of construction did not demand some art form to express their functions. For the purpose of heightening the metallic character of the building, it has been painted a light bronze-green color enlivened on the projecting parts with gold, and in the recesses with Indian red.

But without going further into details, I will only add that, as no national style is possible unless we make the best use of the materials at our command, and refuse to reject any one of them until we have first proved it to be unmanageable; and as ample light and air space, economy, and non-combustibility are the chief desiderata of mercantile buildings in America, — iron should not be too summarily disposed of for building purposes, for it may be found that it contains for the satisfaction of the above desiderata, valuable qualities which no other material possesses in an equal degree.

JNO. PICKERING PUTNAM.

THE NEW HAMPSHIRE STATE PRISON. — The Governor and Council have approved the plans for the new State Prison at Concord, which is to be situated a mile and a half from the State House, near the Concord and Claremont railroad track. The brick walls will include four acres, the main building being 320 feet by 46, with three wings, and a 240′ x 40′ workshop. There will be room for 200 convicts. The building will not be ready for two years.

THE ILLUSTRATIONS.

MONUMENT OF THE RUSSIAN EMPIRE, AT NOVGOROD, RUSSIA. M. MIKESCHINE.

THIS monument was erected to commemorate what is called the one thousandth year of the Russian Empire, dating from 862 to 1862. The upper part of the monument, of bronze, consists of an orb 15 feet in diameter, which is surmounted by the cross and two figures emblematic of the Orthodox faith as the foundation of the moral elevation of the Russian people. Around the lower part of the orb are nineteen figures, each 12½ feet high, which are arranged in groups, and typify the six principal epochs in the history of Russia. First, Rurick, who represents the foundation of the Russian State, 862. Second, Vladimir, who represents the introduction of Christianity into Russia, 988. Third, Dimitry Donskoi, who represents the liberation from the Tartar yoke, 1380. Fourth, Ivan III., who represents the foundation of the Russian monarchy, 1462. Fifth, Michael Fedorovitch, who represents the restoration of the monarchy by the election of the house of Romanoff, 1613. Sixth, Peter the Great, who represents the reformation of Russia, and the formation of the Russian Empire, 1721.

The lower part of the monument is partly of bronze, and partly of granite. The portion immediately under the above-named groups is of bronze; then comes a cornice of Serdobol granite, then a series of bas-reliefs in bronze, and then a socle of granite. The bas-relief, which is five feet high, is occupied by figures of men and women, one hundred and seven in all, who have contributed by their exploits to the glory of the Russian Empire.

The diameter of the lower part, where it is girdled by the bas-relief, is about 28 feet. The height of the whole monument is 50 feet. The weight of the bronze portions is 65½ tons. The cost of the monument was 480,000 roubles, or about $384,000. In the view, which we take from the volume of the *Builder* for 1863, Peter the Great is seen at the right hand, protected by a winged figure. The figure at the left is that of Michael Fedorovitch.

The monument, which was designed by a young Russian artist, M. Mikeschine, is bell-shaped, in order to remind the people of the great bell which was always rung when the Tartars threatened an invasion.

OLD HOUSES AT LENOX AND LITTLE HARBOR.

See article, "Georgian Houses of New England."

DETAILS FROM IRON STORE, BOSTON, MASS. MR. J. P. PUTNAM, ARCHITECT.

(4 Pemberton Square, Boston, Mass.)

See article, "Cast-Iron Fronts and their Decoration."

THE TIMES BUILDING, PHILADELPHIA, PENN. WILSON BROTHERS & CO., ENGINEERS AND ARCHITECTS.

(410 Walnut Street, Philadelphia, Penn.)

This building has just been completed for the *Times* Publishing Company, and has been planned with special reference to furnishing well-lighted airy rooms for first-class business offices; and the fact that all the rooms except those needed by the *Times* itself were well rented immediately upon the completion of the building, is good evidence that this has been accomplished. The building is constructed of best Philadelphia pressed brick relieved with black brick, encaustic tile, and Ohio-stone wrought work. The base course is of granite; and polished Bay of Fundy granite columns are used under the balcony and between the windows of fourth story.

GEORGIAN HOUSES OF NEW ENGLAND.

THE English Queen Anne designers have a way of justifying their many vagaries as follows. They say: In the seventeenth century men had rather ceased to think of style. Classical detail as introduced in Renaissance days had become completely naturalized, and gradually it had ceased to be used in a servile way, or with great regard for precedent; but it simply made things seem attractive without much thought of purity of style, or style at all. Following this came the successive revivals, — of Palladian art, then of Grecian work, then of all the phases of Gothic, — all these lifeless imitations of the antique. From this study of archæology the Queen Anne men profess to rebel, and to turn to the point where our art was before all this direct imitation of obsolete forms began. They find more of the spirit of independence and carelessness for precedent which they seek for in the work of the seventeenth century than elsewhere; so they study and work on that basis, but are ready to combine any thing with it which is attractive. They say they have red bricks and white mortar for their walls, tiles for their roofs, and white sash frames for their windows; and of these the house shall be made.

All this sounds like good reasoning, although in practice the antiquarian spirit makes the movement seem much like other revivals. In fact, we really know that reasoning is not at the bottom of it at all, but that Mr. Norman Shaw and others like him admired and studied and sketched all the quaint old work they could find, and that this work enlivened by their talent has set a quietly imitated example to other designers. If we follow their lead without any native Jacobean or Queen Anne models of importance to inspire us, we shall but be adding one more fashion to our already rather long list. A neo-Jacobean table can join the Eastlake chairs, the American rococo mantel, and the Puginesque sideboard in our dining-rooms; but there is nothing in this but an additional fashion. Now, however, that this wave is felt along our shores, can it not be directed into more fitting channels here even than it has worn for itself in England? We too have had our revivals; and if we go behind them we find in the Georgian days men working without thought of style, simply, delicately, beautifully. Many a choice wooden cornice, many a stiff mantel in our farm-houses, attest this. Plancia, fascia, and soffit still are Yankee words in spite of our mediæval period. With our Centennial year have we not discovered that we too have a past worthy of study? — a study, too, which we can subsequently explain and defend by all the ingenious Queen Anne arguments, strengthened by the fact that our colonial work is our only native source of antiquarian study and inspiration.

Put our heirlooms — any old material we have — into a Gothic room, it is more or less out of keeping. In fact, with these successive fashions, we have to build not new houses alone, but all their furnishings to match. Our heirlooms are tall clocks, Copley or Stuart portraits, convex mirrors, ancient chests and drawers, bits of carving perhaps by Gibbons, Paul Revere tankards or andirons, brass candlesticks, and chairs that came over in the Mayflower. We think with interest of the parish glebes of Cambridge and Portsmouth, of the old Tories' Row in Cambridge; while many are the old wainscoted rooms for which we have an affectionate remembrance; the staircases with boxed steps with a rich scroll under each box, and with the varied balusters carved into a twist by hand; the great brick chimney-corners with Dutch tile borders, and crane, pot-hooks and trammels, and hanging kettles, and the yawning flues resting on oak mantel bars and opening a clear road to the stars above. With all this in the old houses, we find a classical detail universally used, the common language of every carpenter, and treated freely with regard only to comfort, cosiness, or stateliness, and with no superstitious reverence for Palladio or Scamozzi, those bugbears of later years. In studying this colonial work, we find all the delicacy, grace, and picturesqueness, that any model can suggest to us; and combined with it a familiar aspect, and a fitness to harmonize with all those heirlooms and old possessions, that might be put to shame by other fashions. In short, we like it all; and if we want to excuse it we can with the Queen Anne men say we are returning for models to the time when men worked naturally and without regard to style, and that on that stock we propose to graft whatever else now attracts us.

I have said that our sources, and the period that interests us, varied from that which the Queen Anne men affect. True, we have our Charles River, our Cape Ann, our Queen Anne's Corner, and we have many houses of early date. The Craddock mansion was built in the day of Charles the First; the Fairbanks house in Dedham, and the Curtis in Jamaica Plain, during the Commonwealth; and these are still occupied by the families of their builders. The Province House is of the time of Charles II.; the Sudbury Inn of James II.; the Batchelder House in Cambridge dates from William and Mary; the Old Corner Bookstore from Queen Anne; while the President's House and Massachusetts Hall at Cambridge, and the Adams (once Vassal) house at Quincy, all date from the reign of George the First. These are but representative houses; but yet the richest and finest models we have date from between 1727 and 1760, when George II. reigned: Pepperell House in Kittery, 1730; Hancock House, 1737; Royall House, Medford, 1738; Holden Chapel, Cambridge, 1745; Wells mansion, Cambridge, 1745; Wentworth House, Little Harbor, 1750; Longfellow (Vassal) House, 1759; Ladd House, Portsmouth, 1760.

If we study these colonial buildings, we see nearly all the early work in this neighborhood roofed with steep-pitched gable roofs. Rare instances occur like the stone Cradock House at Medford, when the gambrel roof appears earlier; but from 1686, the date of the Sudbury Inn, to 1737, the date of the Hancock House, the gambrel roof is common. Later it became frequent to pitch the roof in from all sides to a ridge or to a second pitch surrounded by a balustrade, and it is under such roofs that the richest interiors of our neighborhood still are found; such as the Longfellow and Wells and Riedesel houses in Cambridge, the Ladd and Langdon at Portsmouth, the Winslow at Plymouth, the Lee at Marblehead (?)

Thus we see that the gambrel roof is typical of but one period of colonial work. Where it came from, I cannot imagine. I recall no English type of the sort, and I should be glad if somebody can explain it. It is said that the bricks of Peter Sergeant's house, afterwards the Province House, were brought from Holland; and is it at about that date that the gambrel roof became prevalent. Is it a reminiscence of Holland? It could hardly be a fashion adopted from New York.

The later and richer mansions were large and square, and with so little detail outside, that one built now would, without the glamour of age, seem unpleasantly angular and box-like. But this

is by no means a characteristic of all colonial work. The old Fairbanks house at Dedham, partly early with high-pitched roof and partly later with gambrel roof, forms a most picturesque pile; and so does the scattered house at Little Harbor, with gables at different heights, and floors at different levels; while the council-chamber wing runs off at an uncalled-for angle with the main building, that would delight Mr. Norman Shaw. Again, among the gambrel roofs, the great lumbering Sudbury Inn forms a most hospitable group, with its wide-spread barns and out-houses; while the Goodman cottage at Lenox smiles through its shrubbery, and winks its many-eyed sashes at the wayfarer. This picturesqueness I have endeavored to illustrate in the sketches with this paper, and we see that a picturesque group of any sort is thus not incongruous with our purpose; while of the interiors there is no need of words. We all know and like them; and it is because we too want to live amid wainscoting, nestle in elliptical arched nooks, warm ourselves beneath the high mantels at blazing wood-fires, and go up to bed over boxed stairs with ramped rails and twisted balusters, and see our old chairs and pictures thus appropriately environed, — it is because we like and want all this, that we seek for an excuse to do it all again. But isn't our liking reason enough?

In all this, I have dwelt on the colonial mansions, not because we have no public buildings. The Old North Church, the Old State House, the Newport State House, the "Old Ship Meeting-House" at Hingham, — all are excellent buildings. But except in peculiar spots, there is less to suggest such work in public buildings than there is in the home. A schoolhouse soon to be built in Deerfield, near the site of the Indian massacre, not unfitly recalls colonial architecture; but for a Western State House there would seem to be no more reason for this spirit than for a Gothic or Italian one. This lays bare at once the thinness of any argument in the matter; and we come back to that always satisfying reason, that in one case it is eminently appropriate, because we like it; and in the other, eminently inappropriate, because we don't like it. For once, at least, let us reason like our clients.

But this, after all, is not a very bad reason, if, as I think, we are past the battle of styles, and the fancies of the artist are become of proportionally greater importance. As soon as we begin to design detail we must, as it were, talk in some intelligible language, or in a *patois* formed from several. Many influences may guide us to different sources of inspiration. I think we, most of us, admit the good in most of these sources, and feel that as any designing worthy the name will hereafter be done by men who are more artists than their predecessors, so what we shall care for in the design is not its historical accuracy, but the artist's clever art in harmonizing whatever his fancy does lead him to, with itself and its surroundings. From this point of view, whatever the attractions of other sources, from no field can suggestions be drawn by an artist more charming and more fitted to our usages, than from the Georgian mansions of New England. GEORGIAN.

THE WASHINGTON MONUMENT.

In the discussions growing out of the proposition to complete the Washington Monument, no stress has been laid on the opportunity that might have been improved to make of it an historical epitome of the events that led to its erection. To one unfamiliar with its history, the pile must appear an enigma in stone; certainly it is far from ornamental or useful, and there is no apparent reason for its existence. If an explanation of its meaning were asked of some bystander, he would probably reply that it was erected to the memory of Washington; the form of the obelisk, the most perfect exponent of unity and dignity, as well as the type of the present and future greatness of the Republic, having been chosen for that purpose. The failure to chronicle any thing connected with its own history must be patent to the most casual beholder; and its faultiness in design and construction has been so frequently set forth, that I shall merely refer to it in the light of an historical record or archive in an enduring form. The whole idea in its design seems to have been height, as if that alone were expressive of dignity and grandeur. Mass and grace of outline certainly add much to the beauty of design; and when to these we give an historic significance by recording in stone, marble, or bronze, a series of events culminating in a successful war and the founding of a nation, we have done honor not only to the individual, but have paid a fitting tribute to the love and veneration of the people. All nations have delighted to erect monuments to the memory of men who have been eminent in their service, thus recording their deeds for the emulation of succeeding generations. And in many of them we see a desire to tell a straightforward consecutive narrative of persons and events. In illustration of this, I shall only call attention to three examples, making no attempt to define their position as works of art, or to criticise their defects, which show how their projectors have labored to put before us a lasting chronicle of an epoch or the life and history of a nation.

The monument of Frederick the Great at Berlin is at once grand and imposing. In the fine modelling and grouping of its several figures, where the sage, the warrior, the statesman, and the poet seem to throng around and support the central figure of the king, we read an interesting history. The panels are filled with bas-reliefs of his private life in happiness and reverse, — the lonely flute-player, the defeated king at Kollin, the connoisseur of art examining an antique bronze, the student of weaving in the Silesian hut, and at length, crowned with laurels and palms, borne aloft by the eagle of renown towards the clouds, where his star "Frederici honor" is resplendent. No Roman toga envelops the form of the king, no heathen emblems surround him; massive and stern he sits aloft, a soldier and an absolute king, as when in life he rode down the Linden; the king who felt himself to be the chief of the nation, and who had said, "I merit no thanks: I have only done my duty." In presenting Rauch the sculptor with the freedom of the city, the Common Council of Berlin used these words: "You have completed a work which long will serve as a means for the mind-elevation of the people," — a fitting and eloquent tribute to the master mind that designed and executed the colossal figure.

A monument of an entirely different type, but, like that of Frederick II., modelled with a desire to perpetuate and foster a love for the history and gradual development of the nation, is that erected at Novgorod to commemorate the thousandth year of the Russian Empire (862–1862). Its very location is suggestive. Novgorod is geographically the centre of Russia in Europe, and midway between the cities of Moscow and St. Petersburg, besides being the seat of the great annual fair at which are represented the industries of all Europe and the Orient. Surrounding the bronze orb are nineteen heroic figures well and intelligently grouped, representing six periods of the nation's history, from Rurick, who founded the Russian polity, to the Empire of Peter the Great. The costumes are varied, and the faces and figures peculiarly marked and strong. Below these groups a bas-relief surrounds the base, representing a hundred and seventy men and women who have contributed by their exploits to the glory of their country. The orb is surmounted by a Greek cross and two winged figures emblematic of the orthodox faith, regarded as the foundation of the moral elevation of the Russian people. The general outline of the monument is that of a large bell.

The triumphal column in the Place Vendôme at Paris (destroyed by the Communists, and since restored), although confessedly a copy from that of Trajan at Rome, appeals to the love of military glory that inspires the hearts of all Frenchmen. Here we have a bronze legend of the years 1805–6. Starting from a plain and simple basement, a spiral ribbon winds around the tall shaft; the story of the campaign gradually unrolls, from the declaration of war to the triumph of Jena and the peace of Tilsit, — the whole surmounted by a statue of Napoleon, whose genius it commemorated. The very material of which it is composed, the bronze of captured cannon, gives point and emphasis to the monument; and there is a grim acknowledgment of its merits in the resolution of the Prussian Chambers to erect a monument to the triumph of Sedan with cannon captured from the soldiers of the Second Empire.

Compare the dimensions and altitude of these examples with that at Washington. The height of the monument to Frederick II. is 43 feet, that at Novgorod 50 feet, and the column in the Place Vendôme 143 feet; while the vast pile of masonry at Washington is designed to rise, a plain unbroken shaft of stone, with the outline but not the spirit of an obelisk, to the height of 600 feet. A constructed Egyptian obelisk surrounded at the base by a Grecian peristyle! what can be more incongruous than this its original design, now mollified, it is true, by omitting the peristyle? Curtis said of it more than twenty years ago, "So far as it is finished it is one of the blankest, ugliest, and most unmeaning piles that encumber the globe. It lies like an incubus on a lovely landscape; and the money that should be applied to its swift removal would be money wisely spent." AYRAULT.

WHAT CONSTITUTES QUEEN ANNE?

To the Editor of the American Architect.

Sir, — Your London correspondent blames me for confounding "The Wispers," "Cragside," and St. George's House in the Centennial Exhibition, with Queen Anne buildings.

In mitigation allow me to say that I did not pretend to know of my own knowledge what buildings were canonical and what not; but thought I was safe in taking the classification of a professed admirer of the style. I quote from Mr. Holly's first paper on "Modern Dwellings" in Harper's for May, 1876.

"They are described by Mr. Ridge somewhat as follows: 'The Queen Anne revival shows the influence of the group of styles known as the Elizabethan, Jacobite, and the style of Francis I., which are now indeed to be arranged under the general head of "free classic;" but the Queen Anne movement has also been influenced by what is known as the "cottage architecture" of that period.' . . . Nevertheless they were very genuine and striking buildings, and have been taken freely as suggestions upon which to work by Mr. Norman Shaw in Leyswood, Cragside, and a house at Harrow Weald . . . ; and the cottages erected by the British Government on the Centennial grounds at Philadelphia are adequate illustrations of this style."

Whether I was warranted by this or not, is it not fair to say that if Cragside and the Wispers are not Queen Anne, and Lowther Lodge is, so much the worse for Queen Anne? S.

BUILDING PATENTS.

IN the *Official Gazette* for Sept. 25, the following patents that have been issued upon new building-appliances are recorded: —

CHIMNEY-CLEANER. — S. H. Dickerson, Hudson, Mich. A noticeable feature is the bag for catching the soot as it is scraped off.

FIRE-PROOF JOINTS FOR BUILDINGS. — Charles Marcotte, St. Louis, Mo.

BELL-STRIKING APPARATUS. — G. M. Stevens, Cambridge, Mass. This apparatus is for use upon fixed bells in towers.

WATER-PROOF CELLAR BOTTOMS. — J. R. Anthony, Cedar Rapids, Io. An inverted brick arch rests upon a bed of cement, which is supported upon a framework of laths and boards. All water drains to a well-hole in the middle.

SHEET-METAL ROOF. — J. B. Clark, Ypsilanti, Mich. Sheet-metal, supported on the upper and lower flanges of I-bars; the space between is occupied by a corrugated sheet of metal joints protected by rolls.

BED-BOTTOM AND FIRE-ESCAPE. — R. O. Collis, Cincinnati, O.

FREIGHT-CHUTE. — W. C. Crompton, New York, N.Y.

LADDERS. — M. Foss, Cairo, Ill.

STOVES. — M. Jones, Hymer, Kan.

SHUTTER FASTENER. — G. W. Mudgett, Edgartown, Mass. For outside blinds and shutters.

DUMB WAITER. — J. Murtaugh, New York, N.Y. When one rope-brake is pulled, the other acts by means of a suspended weight.

COMBINED TIME-LOCKS, COMBINATION-LOCKS, AND BOLT-WORKS FOR SAFES. — J. Sargent, Rochester, N.Y.

STONE-SAWING MACHINE. — J. M. Ballou, Ontario, Can. The saws can be set at any angle for cutting pyramidal figures.

BUTT-HINGES. — C. B. Clark, Buffalo, N.Y. The pintle is provided with a square shoulder, to prevent its turning with the hinge.

HEAT-CONDUCTING MEDIA. — A. Densmore, Meadville, Penn. A solution of nitrate of soda is to be used as a circulating medium in heating apparatuses.

BUILDING-PAPER. — H. F. Evans, Chicago, Ill. Each sheet has indented parallel grooves near the two opposite edges.

FIRE-PROOF ROOFS. — S. Farquhar, Boston, Mass. Wooden rafters, iron purlins, and sheet-metal covering; the spaces between the rafters filled with fire-proof cement.

DOOR FASTENINGS. — E. Feige, East Saginaw, Mich.

LETTER-BOX, BELL, AND DOOR-PLATE COMBINED. — C. B. Geer, Union City, Penn.

CHIMNEY-CAPS. — E. Hawkes, Boston, Mass.

ROOFING-TILE. — J. W. Hoyt, Springfield, Mass. The tile consists of a metal shell, enclosing a non-combustible material.

EVAPORATORS FOR HOT-AIR REGISTERS. — W. R. Lafourcade, Beverly, N.J.

STONE-DRILLING MACHINES. — S. C. Nichols, Cincinnati, O.

VENTILATORS. — H. M. Sanders, Worcester, Mass.

BUILDING PAPER OR BOARD. — J. M. Cobb, Beloit, Wis. This paper consists of straw board, covered on both sides with a mixture of rosin and deodorized mineral oil, and calendered.

NOTES AND CLIPPINGS.

ORIGIN OF THE PATENT OFFICE FIRE. — The Board of Inquiry into the fire in the Patent Office has reported that a fire was built of pine boards and a blower placed over the grate in the ladies' copying room, in the Ninth-street basement, on the morning of the day on which the fire occurred, and that the roaring of the fire excited the attention of persons in the room, and was the subject of comment by them at the time. The testimony of several persons who were upon the roof some time before the alarm was given shows that a section of the wooden grating covering the gutter on the roof and lying immediately against the flue was found to be on fire, and was thrown off the roof into the yard on Ninth Street. The report says: —

"We think there can be no doubt that this dry pine grating was set on fire from sparks or burning cinders which came up through this flue. The amount of this grating which had been burned at the time the witnesses discovered it is variously estimated by them, but we conclude that not less than thirty square feet of boards had been destroyed. The witnesses state that they found a large quantity of live coals lying on the roof and in the gutter, and the copper was so intensely hot that it had changed color, and in some places sunk down as though there was a hole underneath."

THE NEW CAPITOL AT ALBANY. — The work on the Capitol is being pushed, mainly to the completion of the Legislative Chambers. The efforts made by the "A.I.A." and others, to secure an adherence to the original plan, if not entirely successful, have compelled the commission at least to restore work which had been destroyed on the north façade to its original symmetry. The Moorish stencil work on the pedestal dado, which with the Gothic cornice below was to have been removed, still remains, and will so remain; and the arches of Romanesque work begin to show like some new palace rising on the remains of an old one. The intention of the Act "to complete this great building," has been entirely evaded; and instead of carrying out the exterior according to the original plan, the Romanesque defiantly overtops the Renaissance.

ARCTIC MONUMENTS. — It is said that a Dutch expedition will be sent shortly to the Arctic to set up granite monuments to commemorate early Dutch voyagers.

FALL OF A COURT-HOUSE ROOF. — On the morning of Oct. 13 that part of the roof of the Brookville, Ind., Court-House which covered the court-room fell to the floor. The Circuit Court was in session at the time; but it being the last day of the term, few persons were in the room except the officers and attorneys. Strange to say, none were fatally injured, although all were more or less bruised. The roof of the building was being remodelled. The disaster was caused by the weight of the brick which had been taken from the walls, and placed upon the roof of the building. The workmen who were upon the walls at the time the accident occurred escaped without injury. The fire alarm was sounded, and the injured were taken out by the members of the Fire Department. The damage is estimated at $8,000.

THE PUBLIC BUILDINGS NOT FIRE-PROOF. — The commission appointed to examine the fire-proof qualities of the public buildings at Washington have reported. They find that the new State Department and Shepherd Building and the Coast Survey are as nearly fire-proof as buildings can well be, which are filled with records. Two old wings of the Capitol, adjoining the Congressional Library, are very defective, and have much wood under the roofs. The War Department records are stored in many buildings in great part mere tinder-boxes. The large Winder Building, in which are engineers', ordnance, and army rolls, is highly combustible in the upper part.

The Treasury records are in a large degree exposed, so far as the files of two of the important accounting divisions are concerned. Part of the Post Office roof is supported on wooden rafters. The National Medical Museum, the finest collection in the world, is in Ford's Theatre, under a wooden roof and cornice. The Agricultural Department, with its museum, is also unsafe. In fact, nearly all the Government archives are in constant danger from fire. The condition of affairs in this respect proves a surprise to everybody here, and presents questions which Congress must act upon at once. The remedy will require extended appropriations, and will furnish Congress much work.

THE DOUGLAS MONUMENT. — The committee in Chicago having the erection of the Douglas Monument in charge have decided that the present foundation of the monument is not strong enough to support the column, and have voted to tear it down and rebuild a solid foundation of granite. The remains of Senator Douglas will have to be removed while this is being done. The committee determined to push the work through to a rapid completion.

FIRES IN NEW YORK. — The Fire Marshal of New York City has sent in his monthly report of fires, etc., for the month of September, and also for the quarter ending Sept. 30. In September there were 124 fires, involving a total estimated loss of $564,242. The loss on buildings was $282,935, and on contents $281,307. The insurance on buildings was $401,650, and on contents $387,850 — total of $789,500; uninsured loss on buildings $26,280, and on contents $41,785, — total uninsured loss $68,065. For the same month of 1876 there were 74 fires, at an estimated loss of $96,357, the insurance being $856,060. For the quarter ending Sept. 30 there were 358 fires, involving a total loss on buildings of $300,940, and on contents $319,757, or a total of both of $620,697. The insurance on buildings was $824,130, and on contents $703,575, or a total insurance of $1,527,705.

STATE SURVEY. — A survey of the State of New York is now making. The stations for triangulation are marked by signal poles capped with tin reflectors upon the highest hills.

A TROUBLESOME PROBLEM TO SOLVE. — The Milwaukee *Wisconsin* thinks that the new residence of James Kneeland of that city must be the most elaborate structure of the kind in the West; and we quite agree with it. The lot is a full block, and the instructions to the architect were: "Give every room in the building an outlook towards Grand Avenue; secure for every room, even to the smallest, an outlook on three of the four streets which bound the building; provide that in every room there shall, at some time in each day, be a bright sunlight if the sun shines."

SOIL-PIPES. — At a recent meeting of the New York Board of Health it was resolved that soil-pipes in tenement-houses and vaults, when within twenty feet of any dwelling, should be carefully ventilated by pipes, to be laid as the Board directs. After Nov. 1, violations of this resolution will be prosecuted civilly and criminally.

THE ENGLISH CHANNEL TUNNEL. — Operations connected with the submarine tunnel have already been commenced on the other side of the Channel, several pits having been sunk to a depth of about 110 yards. At the same time the French and English committees have definitely drawn up the conditions of working for the route. The property of the tunnel is to be divided in half by the length; that is to say, each company is to possess half of the line, reckoning the distance from coast to coast at low tide. Each company will cover the expenses of its portion. The general work of excavation will be done, on the one hand, by the Great Northern of France, and on the other by the Chatham and South-Eastern companies, the two latter having each a direct route from London to Dover. All the materials of the French and English lines will pass through the tunnel in order to prevent unnecessary expenses and delay of transhipment, as in England and in France railway companies use each other's line, and goods can pass from one line to another without changing vans. It is understood that an arrangement will be established for a similar exchange of lines between all the English and Continental railway companies when the tunnel is completed. The tunnel will belong to its founders. At the expiration of 30 years the governments will be able to take possession of the tunnel upon certain conditions. — *Mining Journal.*

METRES AND YARDS. — Metres can be approximately reduced to yards, by adding $\frac{1}{11}$ of their number.